

**REMARKS**

Claims 1-4 are pending in this application. By this Amendment, claims 1 and 3 are amended. The amendments introduce no new matter because they are made to clarify the subject matter recited in the pending claims. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action, in paragraph 3, rejects claim 3 under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 3 is amended to obviate the objection. Accordingly, reconsideration and withdrawal of the rejection of claim 3 under 35 U.S.C. §112, second paragraph, are respectfully requested.

The Office Action, in paragraph 5, rejects claims 1-4 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0028589 to Reisinger et al. (hereinafter "Reisinger"). This rejection is respectfully traversed.

The Office Action, in paragraph 3, asserts that Reisinger comprises a ceria/zirconia mixed oxide, which is stabilized by certain additive members. At paragraphs [0018] and [0019], Reisinger teaches a "zirconia-rich" material that contains at least more than 50% by weight of zirconia, preferably more than 60 and most preferable more than 80% by weight, the balance being formed by one or more of a list of specific materials. The other materials are indicated as serving to stabilize zirconia against thermal stresses. Paragraph [0018] indicates that most preferably a zirconia-rich zirconia/ceria mixed oxide is used. Paragraph [0019] goes on to indicate that the support also contains ceria-rich ceria/zirconia mixed oxide compounds with a ceria concentration of from 60 to 90 wt.-% relative to the total weight of the mixed oxide. When the disclosure of Reisinger speaks about a mixed oxide, it is very specific in defining this term as "an intimate mixture of two or more oxides on an atomic level which may be regarded as a new chemical compound." Any reference in Reisinger to a combination of cerium and zirconium is in the context of such a mixed oxide.

Claim 1 recites, among other features, a loading layer formed on the catalyst support substrate, and consisting essentially of a mixture of cerium oxide and zirconium oxide in a summed amount of 80% by weight or more with respect to the entire loading layer taken as 100% by weight. Even a broad construction of Reisinger cannot reasonably be considered to teach, or to have suggested, such a feature. The loading layer comprising cerium oxide and zirconium oxide gives an improved low temperature response, i.e., improved effective purifying performance in a low temperature region. Cerium oxide provides the high O<sub>2</sub> storage ability for such upgraded purifying performance, while the zirconium oxide inhibits a specific surface area of cerium oxide from decreasing when it coexists with the cerium oxide and functions in addition to purify the exhaust gases.

The Office Action alleges that Reisinger discloses the same catalyst, and the catalyst contains a catalyst layer which contains the same metal oxide (cerium oxide and zirconium oxide) and at least one additive member, in a combination "which meets the claimed requirement." This conclusion of the Office Action remains in error. Reisinger describes that ceria/zirconia mixed oxide is added. There is no explicit teaching nor even a suggestion, that cerium oxide is added as an independent oxide. There is no disclosure, explicit or implicit, as to a structure in which a loading layer is constituted of a mixture of zirconium oxide and cerium oxide as elements. Rather, every reference to the loading layer in Reisinger is to a ceria/zirconia mixed oxide. The conclusions that the Office Action draws regarding the composition of the loading layer in Reisinger corresponding to the loading layer with the composition specifically recited in the pending claims is simply in error. The positive disclosure of Reisinger describes a catalyst having a loading layer whose main component is substantially aluminum. The subject matter of the pending claims is directed to a loading layer whose main component is a mixture of zirconium oxide and cerium oxide. The

composition, therefore, of the subject matter recited in the pending claims, cannot reasonably be considered to be taught, or even to have been suggested by, the disclosure of Reisinger.

Reisinger specifically differentiates the term "mixed oxide" from a mixture of two or more oxide materials (see, *e.g.*, paragraph [0016]). In order to continue to make the rejection that the Office Action makes, the Office Action must specifically ignore this positive assertion in Reisinger based on the language of the claims, as amended.

Finally, all of the references to relative percentages are as between the zirconia and the ceria within the mixed oxide and not with respect to the entire loading layer. Reisinger is directed at principally an alumina loading layer, and there is no manner by which a principally alumina layer could be reasonably considered to anticipate, or otherwise render obvious, a loading layer with a mixture of cerium oxide and zirconium oxide in a summed amount of 80% by weight or more with respect to the entire loading layer taken as 100% by weight.

With respect to the specific ratios enumerated in claim 2, Applicant's disclosure at paragraph [0024] indicates the advantage to this specific range. This portion of Applicant's disclosure notes that when the cerium oxide content is less, the advantage gained of the high O<sub>2</sub> storage capability of the cerium oxide is not fully exploited. At the other end of the range, when the cerium oxide content is excessive, the content occupied by the cerium oxide in the loading layer is so excessive that it is impossible to keep a specific surface area of the loading layer. The specific range enumerated in the pending claims, with the specific advantages asserted, is not recognized by any disclosure in Reisinger.

The above arguments regarding the separate patentability of claim 2 are not addressed in the pending Office Action.

For at least the above reasons, Reisinger cannot reasonably be considered to teach, or to have suggested, the combinations of all of the features positively recited at least in independent claim 1, and dependent claim 2. Further, claims 3 and 4 are neither taught, nor

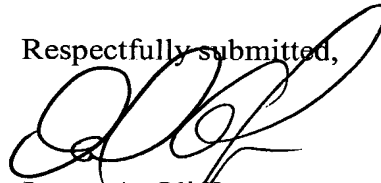
would they have been suggested, by Reisinger for at least the respective dependence of these claims directly on an allowable base claim, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-4 under 35 U.S.C. §102(e) as being anticipated by Reisinger are respectfully requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-4 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,



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